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ALEXANDRIA, VA 22313-1404			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

Office Action Summary	Application No. 10/549,622	Applicant(s) KONNO ET AL.
	Examiner BRYAN R. MULLER	Art Unit 3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 19 September 2005.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-6 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 19 September 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-166/08)
 Paper No(s)/Mail Date 9/19/2005

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the air suction ports that are in a state of facing oppositely to each other must be shown or the feature(s) canceled from the claim(s). The air suction ports (6) shown in the drawings appear to be facing the same direction, not oppositely to each other. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 54. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. Figures 3, 4 and 5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because the legal phraseology term "means" is included in the Abstract and because the reference numbers in the Abstract should be contained within parentheses. Correction is required. See MPEP § 608.01(b).

6. The disclosure is objected to because of the following informalities:

a. As discussed supra, the reference number 54, which is shown in Fig. 3 of the drawings is not discussed in the specification. It is assumed that the reference number "55" in line 12 of the "Related Background Art" section on page 1 of the specification and line 11 of the "Best mode for carrying out the invention" section on page 7 of the specification, referring to a top sealing station should be changed to "54".

- b. All of the section heading (i.e. "Technical field" and "Related background art"; found on pages 1, 3, 7 and 11) should be changed to all uppercase letters (See 37 CFR § 1.77 (c)).
- c. The portion of line 5 of the "Best mode for carrying out the invention" section on page 7 of the specification that reads, "blanks 1 of a carton" should be changed to "blank of a carton".
- d. The word "the" in line 21 on page 9 of the specification should be changed to "a".

Appropriate correction is required.

Claim Objections

- 7. Claim 1 objected to because of the following informalities:
 - a. Claim 1 discloses "powder return prevention means" and "powder collecting means". However, the term "means" is generally only used when invoking 35 U.S.C. § 112, 6th paragraph but neither of the "powder return prevention means" and "powder collecting means" are provided with any functional language to meet the 3-prong analysis for invoking 35 U.S.C. § 112, 6th paragraph (i.e. "means for..." or "means to..."). Therefore, it is suggested that the applicant change "powder return prevention means" and "powder collecting means" to "powder return prevention mechanism" and "powder collecting mechanism", respectively or some equivalent thereof.

b. The claim makes reference in several instances to the position of a feature relative to a portion of the carton, such as the paper powder return prevention means (mechanism) being installed between the nozzle outer wall and *a carton inner wall*. However, the relative position of the apparatus and each feature of the apparatus are only **intended** to be positioned within the carton, and are described in the claim as being movable relative to the carton. Therefore, it is suggested that the applicant replace any reference to the carton when defining relative position of features in the claim with descriptions of the position of the features relative *only* to other feature of the apparatus itself. For the sake of the current Office Action, the Examiner will treat the claim, as best understood, to disclose that the paper powder return prevention means (mechanism) is installed adjacent to the outer portion of the nozzle outer wall and that the paper powder collecting means having air suction ports is installed above the nozzle outer wall.

c. It is suggested that the applicant delete the alternate/additional description (starting with "e.g.") of the relative position of the paper powder return prevention means from lines 10 and 11 of the claim so that there is a single description of the relative position of the feature. If the applicant alternatively decides to delete the prior description ("installed between a nozzle outer wall and a carton inner wall") for purposes of clarity, the applicant should further clarify what the "base part" in line 11 of claim 1 is part of (base part of the nozzle?).

Appropriate correction is required.

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8. Claims 3-6 are objected to because of the following informalities: claim 3 refers to "*the blower*" and "*the paper powder removing carrying medium*", claim 4 refers to "*the filter*" and "*the paper powder removing carrying medium*", claim 5 refers to "*the paper powder removing carrying medium*" and claim 6 refers to "*the static electricity removing means*", "*the blower*" and "*the counter*", all of which lack proper antecedent basis. It is assumed by the Examiner that claim 3 is intended to depend from claim 2, claim 4 is intended to depend from claim 3, claim 5 is intended to depend from claim 5 and claim 6 is intended to depend from claim 5. Appropriate correction is required.

9. Claim 4 is objected to because of the following informalities: for purposes of clarity, the limitation "on a flow path between the paper powder collecting means and the filter" in lines 4-5 of claim 4 should be moved to be positioned between the words "counter" and "for" in line 2 of claim 4. Appropriate correction is required.

10. Claim 5 is objected to because of the following informalities:

- a. The word "air" should be deleted from line 2 of claim 5 to correspond with the terminology of the prior claims.
- b. Claim 5 discloses "static electricity removing means". However, the term "means" is generally only used when invoking 35 U.S.C. § 112, 6th paragraph but the "static electricity removing means" is not provided with any functional language to meet the 3-prong analysis for invoking 35 U.S.C. § 112, 6th paragraph (i.e. "means for..." or "means to..."). Therefore, it is suggested that the applicant change "static electricity removing means" to "static electricity removing mechanism" or some equivalent thereof.

Appropriate correction is required.

11. Claim 6 is objected to because of the following informalities: it is unclear if the applicant is intending to positively claim "a reciprocating movement drive means" as part of the apparatus. If, so it is suggested that the applicant include a limitation of "a reciprocating movement drive mechanism and" between the words "comprising" and "a" in line 2 of claim 6. The applicant should also replace the word "means" in lines 6 and 7 with "mechanism" or some equivalent thereof, as discussed supra. Appropriate correction is required.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim appears to disclose that the blower removes the paper powder from the paper powder collecting means. However, as best understood by the Examiner, the blower only functions to move the paper powder collecting medium but does not actually remove the paper powder, which is best understood to be done by the filter. Therefore, it is suggested that the applicant amend the claim to either include the structure that does remove the paper powder or remove the limitation that the paper powder is removed from separated from the paper powder collecting means.

14. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant claims that the static electricity removing means is located on an upper stream side of the paper powder removing carrying medium. However, as best understood by the Examiner, the paper powder removing carrying medium (air) is cycled by the blower through the entire system. Thus, there is no portion of the apparatus that is "up stream" of the paper powder removing carrying medium. Further, because the paper powder removing carrying means in this apparatus is air, the paper powder removing carrying medium will obviously encompass the entire apparatus, thus further confusing the scope of the claim. For the sake of the current Office Action, the Examiner will treat the claim, as best understood, in view of the entire disclosure, to disclose that the static electricity removing means is located within the paper powder removing nozzle.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama (JP 2003-095226) in view of Kojima (JP 03-069423).

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17. In reference to claim 1, Moriyama discloses a carton paper powder removing apparatus comprising a paper powder removing nozzle (32) that is capable of reciprocating into and out of a carton and has a jetting port at a tip thereof, a paper powder return prevention mechanism that is positioned adjacent an outer wall of the nozzle and a paper powder collecting mechanism (33) that has a suction port. However, Moriyama fails to specifically disclose that the paper powder return preventing mechanism is installed outside of the nozzle or that the air suction ports on the paper powder collecting mechanism are disposed above the nozzle and outside the nozzle. Kojima discloses a similar apparatus for clearing paper powder from cartons and Kojima teaches that the nozzle (42) may alternatively be positioned within the paper powder collection mechanism (41), which will more effectively remove paper powder from the inner bottom surface of the carton and teaches that an apparatus having the nozzle within the collecting mechanism is a known equivalent in the art to an apparatus having a collecting mechanism within the nozzle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the position of the nozzle and the collection mechanism may be switched (or the direction of air movement in the apparatus of Moriyama may be reversed) to reverse the functions of the nozzle (33) and collecting mechanism (32) such that the new nozzle (32) will be positioned inside the new paper powder collecting mechanism (33) in the apparatus of Moriyama. Thus, the flared section of the nozzle, as well as the suction that pulls the paper powder into the collecting mechanism would obviously act together to form the paper powder return prevention mechanism and thus, the paper powder return prevention mechanism

and the paper powder collecting mechanism would be positioned outside the nozzle and the paper powder collecting mechanism would be positioned above the nozzle port. Further, the air suction port formed by the new collection mechanism (32) may be considered to be separated into at least two port sections that are positioned on opposing sides of the nozzle and thus may be considered to be ports that face oppositely to each other. All of the additional limitation in the claim either describe intended use of the applicant's apparatus or provide functional language for the apparatus, all of which are capable of being completed by the apparatus as provided by Moriyama in view of Kojima, as discussed *supra*.

18. In reference to claim 5, Moriyama further discloses a static electricity removing mechanism (34, 37) that is positioned near the air jetting port and will obviously be positioned "up-stream" of the air jetting port.

19. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama (JP 2003-095226) in view of Kojima (JP 03-069423) as applied to claim 1 and further in view of Herzog (5,487,200).

20. In reference to claims 2 and 3, Moriyama further discloses a blower (36) for collecting a paper powder removing carrying medium (air) and sending the medium to the paper powder removing nozzle. However, Moriyama fails to specifically disclose a filter for removing the paper powder from the carrying medium. Herzog discloses a similar apparatus for cleaning containers wherein a blower (18) is provided to suction the carrying medium (also air) from a collecting mechanism to the blower and Herzog

teaches that the blower further comprises a filter to remove any particles of dust or dirt that was suctioned out of the container by the collecting mechanism from the carrying medium. Further, it would have been obvious to one of ordinary skill in the art that the Moriyama apparatus would desirably have some mechanism to remove the paper powder from the carrying medium before returning the medium to the carton being cleaned through the nozzle to more effectively remove all of the paper powder without adding additional paper powder via the nozzle. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Moriyama with a filter, as taught by Herzog, somewhere along the flow path between the collecting mechanism and the blower to remove the paper powder from the carrying medium before returning the carrying medium to the carton through the nozzle to prevent the apparatus from providing additional paper powder to the carton that is being cleaned.

21. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama (JP 2003-095226) in view of Kojima (JP 03-069423) and Herzog (5,487,200) as applied to claims 2 and 3 and further in view of Imamura (5,819,367) and Kobayashi et al. (5,284,522).

22. In reference to claims 4 and 6, Moriyama and Kojima disclose the apparatus as discussed supra, and Moriyama further discloses a reciprocating movement drive mechanism (35), but neither Moriyama nor Kojima disclose a counter for measuring concentration of removed paper powder in the carrying medium. Imamura and

Kobayashi both disclose vacuum cleaners having control mechanisms that determine when cleaning is finished on a surface being cleaned to ensure that each surface is completely cleaned before removing suction from the surface or stopping the suction fan that provides the suction. Both Imamura and Kobayashi disclose sensors (or counters) that are positioned within the flow path from a collection mechanism to suction dirt or debris from the surface being cleaned, which detect quantities of dust and determines whether or not cleaning is finished (Col. 1, lines 11-23 of Imamura). Kobayashi further discloses that the dust sensor (or counter) may convey information to a controller, which controls an electric fan (blower) based on the output of the dust sensor and cleaning condition detecting means. Further, it would have been obvious to one of ordinary skill in the art to provide the apparatus of Moriyama with a mechanism to determine that each carton is thoroughly cleaned before removing the nozzle and collecting means therefrom to ensure that all of the paper powder is effectively removed from every carton. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Moriyama with a similar dust sensor, which would effectively act as a paper powder counter, to measure the amount of debris in the carrying medium being removed from each carton (concentration of removed paper powder) and to provide the information to a controller that will control the function of the blower fan to ensure that suction is applied to the carton until the carton is completely clean inside. It further would have been obvious that the paper powder sensor would be positioned somewhere along the flow path that the paper powder is still present, which must be between the collecting mechanism and

the filter. Additionally, it would have been obvious to one of ordinary skill in the art to automate the operation of the machine by also providing the controller with the ability to send a control signal to the reciprocating movement drive mechanism to control the movement of the nozzle and collection mechanism in and out of each carton.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamazaki discloses an apparatus having similar structure and function as the applicant's claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN R. MULLER whose telephone number is (571)272-4489. The examiner can normally be reached on Monday thru Thursday and second Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail III can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bryan R Muller/
Examiner, Art Unit 3723
4/10/2008